UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/042,302	01/11/2002	Dario C. Altieri	044574-5098-US	5541

9629 7590 02/09/2005

MORGAN LEWIS & BOCKIUS LLP
1111 PENNSYLVANIA AVENUE NW
WASHINGTON, DC 20004

EXAMINER	
HARRIS, ALANA M	

ART UNIT	PAPER NUMBER
1642	

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/042,302	ALTIERI ET AL.	
	Examiner	Art Unit	
	Alana M. Harris, Ph.D.	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-23,25-27,29 and 31-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-23,25-27,29 and 31-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *09/06/02; 11/18/02*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendments and Arguments

1. Claims 1, 3-23, 25-27, 29 and 31-42 are pending.

Claims 1, 3, 5, 17, 22 and 25-27 have been amended.

Claims 2, 24, 28 and 30 have been cancelled.

Claims 1, 3-23, 25-27, 29 and 31-42 are examined on the merits.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Oath/Declaration

3. The Examiner acknowledges Applicants submission of a substitute declaration or oath submitted November 16, 2004 to identify the heirs of deceased inventor Sharon D. Smith.

Withdrawn Rejections

Claim Rejections - 35 USC § 112

4. The rejection of claims 17 and 21-23 under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement has been withdrawn in light of Applicants' arguments. Claim 24 has been cancelled.

5. The rejection of claims 5, 17 and 22 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention is withdrawn in light of the claim amendment.

Claim Rejections - 35 USC § 102

6. The rejection claims 1, 3, 4, 6-10, 13, 15, 16, 28, 29, 31-34 and 41 under 35 U.S.C. 102(b) as being anticipated by Jouben-Steele et al. (Laboratory Investigation 1(79): 99A, January 1999/ IDS reference submitted November 18, 2002) is withdrawn in light of the claim amendments. More specifically, the claims contain an amendment submitted November 16, 2004 in which the recitation, "biological fluid" has been replaced with the recitation, "urine supernatant". Jouben-Steele disclosed a method assaying urine sediment. Sediment is defined as insoluble material that tends to sink to the bottom of a liquid, see Illustrated Stedman's Medical Dictionary, 24th edition, pages 542, 1269 and 1370, Williams and Wilkins, Baltimore, MD, 1982. Stedman's defines supernatant fluid as clear fluid, which after the settling out of an insoluble liquid or solid by the action of normal gravity or of centrifugal force, takes up the upper portion of the contents of a vessel. Accordingly, the 102(b) rejection has been withdrawn. Claims 2, 28 and 30 have been cancelled.

New Grounds of Rejection and Maintained Rejections

Claim Rejections - 35 USC § 112

7. The rejection of claims 25-27 and 32-40 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention is maintained.

a. Claims 25-27 are vague and indefinite in the recitations "comprising quantitating the amount of survivin in the sample ...from a patient and comparing the

amount of survivin... in control samples to determine [stage or grade] of ...cancer". The methods lack complete steps.

Applicants assert that the claims include two steps and recite them in their Remarks. Applicants assert "the claims recite a detection step (step 1) and a comparing step (step 2)." This point of view has been carefully considered, but found unpersuasive.

The claims are remiss of the reagents or components needed for quantitating and a conclusion step setting forth results of preamble or purpose of the claim. And while all of the technical details of a method need not be recited, the claims should include enough information to clearly and accurately describe the invention and how it is practiced. The method steps should at least include reagents necessary for the assay, a detection step in which the reaction products are quantitated or visualized and a correlation step describing how the results of the assay allows the determination of for example, determining the amount of survivin.

Claim Rejections - 35 USC § 102

8. The rejection of claims 1, 3-12, 15-23, 25-27, 29 and 31-42 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,656,684 (filed November 2, 2000) is maintained. Claims 2, 24, 28 and 30 have been cancelled.

Applicants assert with the amendment of claims 1 and 17 to include "...a sample of urine supernatant..." the instant rejection has been obviated. Applicants recite passages of the rejection listed in paragraph 9 bridging pages 6 and 7 of the Office

Action mailed July 16, 2004 which they suggest no longer read on Applicants' amended claims, see page 10 of Remarks submitted November 16, 2004. These points of view and arguments have been carefully considered but found unpersuasive.

Referenced in paragraph 9 of the last Action column 2, lines 43-48 the Examiner noted "[a]lternatively, the physiological sample may be a fluid, such as whole blood or blood serum." It is reasonable to conclude that urine supernatant is regarded as a fluid, especially in light of the Stedman's definition of supernatant fluid. It is defined as clear fluid, which after the settling out of an insoluble liquid or solid by the action of normal gravity or of centrifugal force, takes up the upper portion of the contents of a vessel. Additionally, components for analyzing the presence of survivin are disclosed in the patent, see entire patent. Consequently, the rejection is maintained.

Claim Rejections - 35 USC § 103

9. The rejection of claims 1, 3, 4, 6-10, 13-23, 29, 31, 32, 41 and 42 under 35 U.S.C. 103(a) as being unpatentable over Jouben-Steele et al. (Laboratory Investigation 1(79): 99A, January 1999/ IDS reference submitted November 18, 2002), in view of Bio-Rad Laboratories Catalog 1998/99 is made and maintained. Claims 2, 24, 28 and 30 have been cancelled.

Jouben-Steele teaches a method of diagnosing urothelial neoplasia (including bladder and prostate cancer) comprising assaying urine sediment of patients in comparison to normal control samples. Survivin mRNA was present in the urine sediment of patients as determined by RT-PCR, nested PCR and dot blot analysis.

Jouben-Steele does not teach wherein the sample is urine supernatant and the dot blotting utilizes a Bio-Dot SF module or a kit for diagnosis, prognosis or monitoring cancer, comprising a container for collecting urine supernatant from a patient.

However, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to assay urine and utilize the Bio-Dot SF (slot format) microfiltration unit. One of ordinary skill in the art would have been motivated to assay urine in light of the fact Jouben-Steele acknowledge "[t]he detection of survivin transcription, in the urine, could be useful in surveillance of neoplasia of the urinary tract." Ultimately, urothelial neoplasia could be diagnosed. Moreover, one of ordinary skill in the art would have been motivated to use the Bio-Dot SF unit because this particular microfiltration and screening equipment because it provides a reproducible method for nucleic acid in solution onto nitrocellulose and provides information on a target transcript and gene expression.

Furthermore, although the claims recite a kit and a container for use, no positive recitation of the kit ingredients/elements distinguishes the claim over the reference. Therefore, the reference reads on the claimed kit and container of use. It is noted that kits traditionally include structural material such as instructions, labeling and promotional material. The container is viewed as a recitation of intended use and therefore is not given patentable weight in comparing the claim with the prior art. See MPEP 706.03(a). Thus the container for use included in a kit or article of manufacture constitutes an "intended use" for that kit or article of manufacture. Thus, the claimed

subject matter is considered obvious over the prior art, absent sufficient factual evidence to the contrary.

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to make a kit containing a compound which selectively detects survivin and a kit for use. One of ordinary skill in the art would have been motivated to make a kit because test kits including compounds are packaged for the advantages of convenience and economy for the ordinarily skilled artisan or the practitioner. Kits are conveniently made to reproducibly obtain results under test conditions and it is conventional to assemble necessary reagents including compounds, such as nucleic acid probes to selectively hybridize to nucleic acid molecules such survivin DNA for the convenience of the practitioner and commercial expediency.

10. The rejection of claims 1, 3-13, 15-23, 25-27, 29 and 31-42 under 35 U.S.C. 103(a) as being unpatentable over Jouben-Steele et al. (Laboratory Investigation 1(79): 99A, January 1999/ IDS reference submitted November 18, 2002), in view of U.S. Patent 6,656,684 (filed November 2, 2000) is made and maintained. Claims 2, 24, 28 and 30 have been cancelled.

Jouben-Steele teaches a method of diagnosing urothelial neoplasia (including bladder and prostate cancer) comprising assaying urine sediment of patients in comparison to normal control samples. Survivin mRNA was present in the urine sediment of patients as determined by RT-PCR, nested PCR and dot blot analysis. Jouben-Steele does not teach wherein the sample is a urine supernatant or the bladder

or prostate cancer is graded as CIS, the cancer is diagnosed using an immunoassay, a kit for diagnosis, prognosis or monitoring cancer including all the elements for detection of the presence of survivin in urine supernatant.

However, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to assay urine. One of ordinary skill in the art would have been motivated to assay urine in light of the fact Jouben-Steele acknowledge "[t]he detection of survivin transcription, in the urine, could be useful in surveillance of neoplasia of the urinary tract." with a reasonable expectation of success. Ultimately, urothelial neoplasia could be diagnosed.

Furthermore, U.S. Patent 6,656,684 teaches a diagnostic method for predicting the recurrence of a tumor or cancer in a mammal by contacting a mammalian tissue sample with...a Survivin-specific ligand...", see column 2, lines 19-34. Inherent in the diagnostic method of evaluating the recurrence of the cancer are the methods of determining the grade of cancer, stage of a cancer, and monitoring cancer in a patient comprising quantitating the amount of survivin in a sample of biological fluid. It is clear in the establishment of the recurrence of the cancer that the grade, stage and monitoring of the cancer has been conducted. The patent relates to tumors of the urogenital tract, as well as all types of sarcomas. The Examiner is interpreting the acronym, CIS as a carcinoma in situ and it is reasonable to conclude that the disclosed methodologies are applicable to bladder or prostate cancer graded as CIS. Provided that the patent includes "all types of sarcomas" cancers regarded as CIS would be assayed, see column 2, lines 43-45. The physiological sample may be a fluid, for

example whole blood and the detection agent may be an antibody, see column 2, lines 43-48. Western blot analysis was performed, as well as immunohistochemical staining, see column 9, lines 27-60. Northern analysis or northern blotting is used in the disclosed assay to identify survivin RNA sequences using a nucleic acid probe, see column 8, lines 1-25. The present invention also provides a diagnostic kit for predicting recurrent of tumor or cancer in a mammal, containing packaging material, components for analyzing the presence of survivin, a Survivin-specific ligand, a pro-apoptosis factor (PAF)-specific ligand and instructions directing the use of the aforementioned items, see column 2, lines 49-54.

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to diagnose, stage, grade and monitor a bladder or prostate cancer of pathological phase and implement a kit comprising all the elements of capable of allowing the selective detection of survivin. One of ordinary skill in the art would have been motivated by the teachings of both references that the assessing of the survivin in any cancer is possible and practitioners package test kits including all the required compounds for the advantages of convenience and economy for the ordinarily skilled artisan.

11. The rejection of claims 1, 3-23, 25-27, 29 and 31-42 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,656,684 (filed November 2, 2000), in view of Bio-Rad Laboratories Catalog 1998/99 is made and maintained. Claims 2, 24, 28 and 30 have been cancelled.

The teachings of the patent have been presented in the 102(e) rejection, see paragraph number 8. The patent does not teach that the survivin was detected by dot blotting comprising the use of a Bio-Dot SF module.

However, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to utilize the Bio-Dot SF (slot format) microfiltration unit. One of ordinary skill in the art would have been motivated to use this particular microfiltration and screening equipment because it provides a reproducible method for nucleic acid in solution onto nitrocellulose and provides information on a target transcript and gene expression.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alana M. Harris, Ph.D. whose telephone number is (571)272-0831. The examiner works a flexible schedule, however she can normally be reached between the hours of 6:30 am to 5:30 pm, with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Siew can be reached on (571) 272-0787. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alana M. Harris, Ph.D.
03 February 2005

ALANA M. HARRIS, PH.D.
PRIMARY EXAMINER
02/07/2005